



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/605,287	09/19/2003	Mukunda V. Prema	202-0275 (FMC 1581 PUS)	2286
28395 7590 02/06/2007 BROOKS KUSHMAN P.C./FGTL 1000 TOWN CENTER 22ND FLOOR SOUTHFIELD, MI 48075-1238			EXAMINER OLSZEWSKI, JOHN	
			ART UNIT	PAPER NUMBER
			3618	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/06/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/605,287	<b>Applicant(s)</b> PREMA ET AL.	
	<b>Examiner</b> John R. Olszewski	<b>Art Unit</b> 3618	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 December 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11-20 is/are allowed.
- 6) ☒ Claim(s) 1-3, 7 and 10 is/are rejected.
- 7) ☒ Claim(s) 4-6, 8 and 9 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some    \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>19 September 2003</u> . | 6) <input type="checkbox"/> Other: _____  |

***Election/Restrictions***

1. **Applicant's election with traverse of the election of species in the reply filed on 19 December 2006 is acknowledged.** The traversal is on the ground(s) that there is not a serious burden on the examiner to examine all 3 embodiments. This is not found persuasive because in a text database the keywords for a text search would vary greatly between each of the species.

The requirement is still deemed proper and is therefore made FINAL.

***Claim Rejections - 35 USC § 102***

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claims 1-3, 7 and 10 are rejected under 35 U.S.C. 102(b.) as being anticipated by Nakayama et al. (US 6,163,135).**

*With regards to claim 1, Nakayama et al. discloses:*

- A hybrid electric vehicle having:
  - An engine (Figure 1, Item 10)
  - A battery (Figure 1, Item 50)
  - A motor-generator powered by the engine or the battery and adapted to drive a vehicle wheel (Figure 1, Items 26 and 28)
  - A control module for monitoring and controlling the hybrid electric vehicle (Figure 1, Items 46 and 56)
- The method comprising the steps of (Columns 6-8, Line 48 [Column 6] to Line 9 [Column 8]):

Art Unit: 3618

- Determining if a temperature of the battery is below a predetermined value (Figure 4, Item S100)
- Determining whether a triggering event has occurred (Figure 4, Item S102)
- Reversing polarity of a battery current if the temperature of the battery is below the predetermined value and a triggering event has occurred (Figure 4, Item S103)
  - It is inherently known in the art that reversing the polarity is another way of saying charging the battery

With regards to claim 2, Nakayama et al. discloses:

- The step of determining whether a triggering event has occurred includes determining whether a tip-in event, a tip-out event, or a terminal voltage event has occurred (Figure 4, Item S102)
  - The state of charge of the vehicle battery is a terminal voltage event

With regards to claim 3, Nakayama et al. discloses:

- Determining whether a tip-in event has occurred comprises measuring a battery voltage and not reversing the polarity of the battery current if the battery voltage is low (Terminal Voltage Sensor: [Column 5, Lines 15-17]; Not reversing the polarity: [Columns 6-7, Lines 66-5])

With regards to claim 7, Nakayama et al. discloses:

Art Unit: 3618

- The step of determining the temperature of the battery comprises comparing the predetermined value to a measured value from a battery temperature sensor  
(Item 74, Column 5, Lines 52-55)

With regards to claim 10, Nakayama et al. discloses:

- The step of determining whether a terminal voltage event has occurred comprises:
  - Comparing a terminal voltage value to a limit value that is indicative of the polarization resistance voltage of the battery (Terminal Voltage Sensor: [Column 5, Lines 15-17]; Not reversing the polarity: [Columns 6-7, Lines 66-5])

***Allowable Subject Matter***

3. **Claims 4-6 and 8-9 are objected to as being dependent upon a rejected base claim**, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

With regards to claim 4:

- *Not reversing the polarity of the battery current if the battery voltage is high in association with a tip-out event* is the allowable subject matter in this claim. The tip-out event and terminal voltage event are different in scope, and the same rejection cannot be applied to both the terminal voltage and the tip-out event, therefore since there has not been any prior art found at this time that discloses or teaches that claimed by applicant, this claim is found to contain allowable subject matter.

Art Unit: 3618

With regards to claims 5-6:

- *Reversing the polarity at a first rate for a tip-in or tip-out event, and a second rate for the terminal voltage event* is found to be allowable over the prior art found at this time, since none of the art found at this time discloses or teaches this. While the reference used in rejecting these claims does indicate the use of different speed rates to charge the battery they are not linked directly to a tip-in or tip-out event. Therefore this claim and those that depend from it are found to contain allowable subject matter.

With regards to claim 8:

- *The direct link between the position of the gas pedal sensor and a tip-in event* is found to be allowable subject matter at this time, since it has not been found in the prior art as a disclosure or teaching.

With regards to claim 9:

- *The direct link between the position of the brake pedal sensor and a tip-out event* is found to be allowable subject matter at this time, since it has not been found in the prior art as a disclosure or teaching.

**4. Claims 11-20 are allowed.**

With regards to claims 11-19:

- *Determining whether a previous polarity reversal has been completed* is the subject matter that makes this claim allowable over that found in the prior art at this time. Therefore claim 11, and those claims that depend from claim 11 are found to be allowable over the prior art found at this time.

Art Unit: 3618

With regards to claim 20:

- *Determining whether a previous polarity reversal has been completed and preventing a subsequent polarity reversal from being implemented until the previous polarity reversal has been completed* is the subject matter that makes this claim allowable over that found in the prior art at this time. Therefore claim 20 is found to be allowable at this time.

**Conclusion**

**5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:**

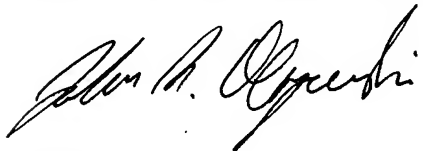
- Inada et al. (US 6,215,198), Kinoshita (US 6,232,748), and Bito et al. (US 6,501,250)
  - Disclose that which is claimed and disclosed by applicant

**6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John R. Olszewski whose telephone number is 571-272-2706. The examiner can normally be reached on M-Th 5:30AM-4PM.**

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Ellis can be reached on 571-272-6914. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

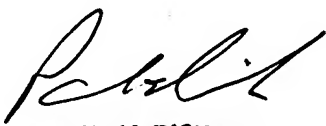
Art Unit: 3618

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



JRO

02-05-2007



2/5/07

PAUL N. DICKSON  
SUPERVISORY PATENT EXAMINEE  
TECHNOLOGY CENTER 3600